Measurements.—

	micromillim.
Skeleton-spicules—	
Length	140
Thickness	14
Diameter of tubercles	1·5
Double whorls, length	33·6
Length of the teeth (from the centre)	5·6
Thickness of the axis	2·3
Gemmula-spicules—	
Length	56
Thickness	5·6

As, from the absence of amphidisks or rudimentary amphidisks, the genera *Meyenia*, *Tubella*, and *Parmula* are excluded, and all the species of *Spongilla* in the restricted sense possess pointed skeleton-spicules, excepting only *S. nitens* (cf. Carter's synopsis, *l. c.*), our second form must without doubt be regarded as a new species, which, in honour of its discoverer, shall be named *Spongilla* (s. s.) *Böhmii* (Zool. Museum, Protozoa no. 811).

PROCEEDINGS OF LEARNED SOCIETIES.

DUBLIN MICROSCOPICAL CLUB.

May 18, 1882.

Nephrocytium Agardhianum, Näg., *and Zoospores.*—Mr. Archer showed examples of the two minute Algæ, *Nephrocytium Agardhianum*, *majus* et *minus*, Nägeli, and remarked that he thought these two forms very distinct indeed, dwelling at the same time on their resemblances and distinctions as regards the genus *Oocystis*, Näg. But he was on the present occasion more particularly anxious to draw attention to examples of the former, which he would be disposed to designate only *Nephrocytium Agardhianum* (and the smaller *Nephrocytium minus*), inasmuch as it (*N. Agardhianum* proper) showed a zoospore condition. An example was now under the microscope, in which the four elliptic, necessarily comparatively large, biciliated zoospores were still contained in the parent cyst, within which they performed a lazy side-to-side movement. On their escape, however, into the surrounding water their movements become greatly accelerated, and they dash about with great force and, as it were, recklessness, hither and thither. Considerable differences of size were apparent, some being nearly twice as large as others. Mr. Archer would suggest that this might be due to whether an average example became divided into four or eight subdivisions;

in the latter case evidently the individual zoospores would only be approximately about one half the size. It is true, however, that the still (that is, the ordinary vegetative), characteristic examples do not usually present any very great differences in size, but maintain generally characteristic dimensions.

Protococcus pluvialis, to show Nucleus.—Dr. M'Nab showed specimens of the ciliated state of *Protococcus* (*Chlamydococcus*) *pluvialis*, treated with osmic acid and carmine. The nucleus was most clearly seen in each free cell, and also in others, which had divided or were then undergoing division into four or eight new cells.

Laticiferous Cells of Euphorbia.—Dr. M'Nab exhibited a freshly prepared specimen of the laticiferous cells of *Euphorbia procera*; a portion of the stem was boiled in dilute caustic potash solution and then teased out with needles.

Polyedrium gigas, Wittrock, *a rare Form, exhibited.*—Mr. Archer further showed *Polyedrium gigas*, Wittrock, the second time he had taken this fine and very distinct form, so large, so bright, so green, and so unlike the other rather dull-coloured forms referable to Nägeli's genus. These specimens were from the same county as previously, though not the same locality in Westmeath.

June 15, 1882.

Ascidiozoids of a Pyrosoma.—Prof. A. C. Haddon exhibited a preparation from the Naples Zoological Station, showing four ascidiozoids budding off from a cyathozoid, thus forming the foundation of a *Pyrosoma*-colony. He also presented a second preparation, being the initial individual of a *Botryllus*-group in a stage between the larva and the adult.

Stenella, n. s., *exhibited.*—Prof. E. Perceval Wright exhibited a mounted specimen from the 'Challenger' collection of a new species of *Stenella*, near to but abundantly distinct from *S. imbricata*, Johnson; this seems to have been met with very frequently during the cruise of the 'Challenger.'

Cosmarium melanosporum, n. s., *with Zygospore.*—Mr. Archer showed the conjugated state in very considerable quantity of the little smooth *Cosmarium*, with round, very darkly tinted zygospore, from which circumstance Mr. Roy and he had agreed to call the form *Cosmarium melanosporum*. This species conjugates pretty frequently and always freely; so that, when met with, a large gathering may thus sometimes be made.

Elongate unicellular Alga seemingly related to the so-called Cosmarium obtusum, Bréb.—Mr. Archer drew attention to one of those unicellular, elongate, more or less curved Algæ, believed to be generically associated with the so-called *Closterium obtusum*, Bréb., but not properly referred to *Closterium*. The present form is com-

paratively stout, broad for its length, scarcely tapering, evenly curved ("boomerang"-shaped), ends broadly rounded; contents dense, consisting of scattered rounded granules. Perhaps the most curious point in the present instance was that, mounted only some forty-eight hours in acetate of potash, the green contents had to all appearance become dissolved, and only the empty hyaline otherwise unaltered cell-walls were now to be seen of some half dozen examples that were on the slide.

October 19, 1882.

Quasi-Fungal Growth in Shell of Limax.—Prof. Mackintosh called attention to an apparently fungal growth in a shell of *Limax cinereus*, mounted last December. He had noticed the growth a couple of days after mounting; and it had continued in the same state since. It might be in the medium (alcoholic glycerine); but it seemed to him to be in the periostracum. If this were so, it would be similar to, but less easily accounted for than, the supposed hyphal growths in the shells of branchiate Gasteropods.

Spicules of new Species of Alcyonaria from 'Challenger' Collection.—Dr. E. Perceval Wright exhibited some mounted spicules of two new species of *Alcyonaria* belonging to the genus *Primnoella*, as well as drawings of the polyp-colony. These formed part of the collection made by the 'Challenger' expedition, of which full descriptions are to appear in the forthcoming Report.

Cystidia from Gill of Gomphidius glutinosus.—Mr. Greenwood Pim exhibited a section of the gill of *Gomphidius glutinosus*, which showed the so-called cystidia developed to an extent very unusual amongst the Agaricini. These bodies, which in Agarics in general, except the Coprinarii, are scarcely discernible, are looked upon by Mr. W. G. Smith as being the male organ in this group. In the specimen shown there was nothing to confirm this view, the organ consisting of large cells resembling hairs, filled with a granular protoplasm and projecting a long way from the hymenial surface. It is probable that these somewhat anomalous bodies are analogous to the paraphyses met with in the Pezizas. Nothing resembling the antheridia described by Mr. Smith was discernible in Mr. Pim's specimen, in which the basidiospores were abundant and well developed.

Motile state of the "80" Organism (Club Minutes, January 1871).—Mr. Archer showed the production he had before drawn attention to under the provisional designation of the "80" organism; and he would first say that quite as little as then was he able to arrive at a conclusion as to the nature or affinity of this puzzling and by no means attractive-looking organism. But he drew attention to it again in order to exhibit once more its puzzling and astonishing motile condition—that is to say, to show the broken-up

contents, each fraction (zoospore?) made up of one, or two, or three of the granules (often two larger and one of the more minute, or one large with two or three more minute), arranged in a tolerably straight file and enclosed in a proper envelope, and moving about in sweeps and curves or more or less straight directions, revolving the while on the longitudinal axis. Those who are adepts at using $\frac{1}{25}''$ or $\frac{1}{50}''$ objectives might possibly discern flagella similar to those of *Bacteria*; but nothing of the kind could be seen with ordinary powers. These little moving bodies ere long come to rest, and even though still small, not a half or a quarter of the full dimensions, become divided and reproduce the "80" characteristics.

Section of Velum and Foot of Veliger larva of Purpura lapillus.—Professor A. C. Haddon exhibited a transverse section through the velum and foot of a veliger larva of *Purpura lapillus*, showing the development of the nervous system in four thickenings of the epiblast, this being the first time that the nervous system has been proved to have an epiblastic origin in the Prosobranchs.

Sections of Hair-follicles stained.—Dr. J. F. Knott showed sections of hair-follicles of human scalp perpendicular to long axis of hairs, stained with picro-carmine and aniline violet, which latter tinges the outer (Henle's) layer of the inner root-sheath. Huxley's layer staining with picro-carmine as well as the outer root-sheath, the various layers of the complex wall of the hair-follicles are extremely well differentiated. Some of the specimens show with plainness the processes sent by the cells of Henle's layer into the intercellular fenestræ of the layer of Henle. This particular arrangement, which has been lately so graphically described by Professor Ranvier, formed the chief interest of the specimen. It accounts for the closeness of adhesion between the layers long ago observed, but which had previously remained unexplained.

November 17, 1882.

Section of Plumule of Germinating Seedling Opuntia.—Dr. M'Nab exhibited sections of a plumule of a germinating seedling Opuntia. The punctum vegetationis was distinctly shown, with the leaves originating in the normal manner, the older ones having contracted axillary shoots bearing spines and hairs. The leaves were of very simple structure and outline, and possessed a single central fibro-vascular bundle.

Another nondescript problematic Production.—Mr. Archer showed an example of a puzzling structure now and again met with in deep pools and amongst débris of various sorts. This is somewhat large, of plumply ovate figure, of brownish colour, opaque, covered by prominent scale-like or leaf-like seemingly imbricated projecting prominences—these, if he judged aright, running in spiral lines, the contents coarsely granular, thus the whole resembling in figure and

calling to mind the involucrum, with its projecting leaflets, of certain Composites, say such as that of *Centaurea nigra*. This occurs isolated, single examples turning up now and again. The question is, what can it be? It has never shown any sign of life or change of condition.

A Form of Aspergillus.—Mr. Greenwood Pim showed a peculiar black form of *Aspergillus* from the interior of a fig, which it had completely metamorphosed. It was considerably smaller in all its parts than *Aspergillus glaucus*; and its intense brownish-black colour would seem to point to its being at least a distinct variety.

December 15, 1882.

Spores of Tuber æstivum.—Mr. Pim showed sections of the (so-called) common Truffle (*Tuber æstivum*), from Farmleigh Gardens, Castleknock, co. Dublin, where it grows in considerable abundance and is used for culinary purposes. The peculiar alveolate spores distinguishing it from *T. brunale*, the other species used as an esculent, were well marked.

Structure of Stem of Urvillea.—Dr. M'Nab exhibited sections of the stem of *Urvillea ferruginea*, a Brazilian plant belonging to the natural family Sapindaceæ. The stem was triangular, with a row of hairs at each angle. The stem contained a ring of united fibro-vascular bundles in the centre with a pith, the bast showing the bast-vessels with great clearness, while the bast-fibres were wanting. Three double bundles were developed, one at each angle of the stem; and a ring of sclerenchyma surrounded the stem a short distance below the epidermis. Collenchyma existed in six patches, one at each angle and one in the middle of each face.

Nerve-endings in Frog's Muscle.—Dr. Knott showed preparations presenting examples of nerve-endings in muscle of frog.

Zygospore of Cosmarium cucurbita (most probably) shown.—Mr. Archer exhibited what appeared to be the zygospore of the common *Cosmarium cucurbita*, rotund and smooth, the parent semi-cells attached by their oscula to the spore; he spoke of this appearing to be the zygospore of the species mentioned, as one could not feel absolutely certain that it was truly so, a number of unconjugated examples occurring in the gathering; but if not so, it would be difficult to suppose to what other species the example could appertain. The doubt arose from the semi-cells appearing to be slightly distorted, that is somewhat dilated at the ends, thus losing the character of outline appertaining to this inornate and very common species; but frequent as it is, it does not appear to have hitherto shown its zygospore.

Section of Olivine Dolerite.—Prof. Hull exhibited a thin section of olivine dolerite from Scalot Hill, near Larne, co. Antrim.

This rock occurs as filling an old volcanic "neck" which pierces through the Chalk limestone and the overlying sheets of basaltic lava which form the crest of Scalot Hill. The rock is seen to be rich in olivine, which forms perhaps one third of the whole mass and polarizes vividly. The other minerals are augite, labradorite, felspar in long plates or prisms, and a little black magnetite.

The rock itself is found to be magnetic when tested by a sensitive needle.

In its general characters the rock agrees with those of other volcanic necks of co. Antrim, such as Carmony Hill and Slcamish, in being rich in olivine, and as having undergone very little alteration since the original consolidation.

Section of Rock from the Summit of Mount Cooke, in New Zealand, obtained by Rev. W. S Green.—Prof. Valentine Ball showed a section of the foregoing.

In its microscopic characters this rock appeared to consist of a breccia of volcanic materials, angular fragments of quartz and felspar being scattered about in a partly altered, either augitic or hornblendic matrix. This view of its constitution has been confirmed by the microscopic examination of a thin section*. It is a distinctly clastic rock, of which the constituents have been so fractured that there are no unbroken crystalline forms in a condition suitable for determination. The angularity of the particles is against its being of a detrital nature. It would therefore be probably proper to describe it as a dioritic-ash breccia containing quartz.

GEOLOGICAL SOCIETY.

June 20, 1883.—J. W. Hulke, Esq., F.R.S., President, in the Chair.

The following communications were read:—

1. "On the Discovery of *Ovibos moschatus* in the Forest-bed, and its Range in Space and Time." By Prof. W. Boyd Dawkins, M.A., F.R.S., F.G.S.

The specimen described by the author formed part of the collection of the late Rev. F. Buxton, and was obtained by a fisherman from the forest-bed of Trimingham, four miles from Cromer. The edges are sharp, and the red matrix adhered in places, so that the author regards its geological position as satisfactorily established. It is the posterior half of the upper surface of the skull of an adult female *Ovibos moschatus*. The author describes the range in space and time of this animal, mentioning the different instances in which its remains have been found in Britain. These are, in some cases,

* Prepared by Mr. Cuttell.